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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,214	10/18/2002	Ole A Heggdal	PROTE10.001APC	9305

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EXAMINER

LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/070,214	Applicant(s) HEGGDAL, OLE A	
	Examiner Philip H Leung	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-26 is/are pending in the application.
 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 10, 12, 14-16 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7-8-2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 1-12, 14-16 and 20-24 and also newly added claims 25 and 26 in the reply filed on 7-12-2004 is acknowledged.

2. Claims 17-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 7-12-2004.

3. The drawings filed on 10-18-2002 are acceptable.

4. In claim 15, it is respectfully suggested to rewrite "method for supplying heat" at line 1 as "method of supplying heat" instead in order to positively set forth the structure of the production/injection line. Furthermore, should "transport channels" at last line of the claim be "the channel members" in order to set forth a proper antecedent basis? Clarification and/or correction are suggested.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-4, 9, 10, 20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stine et al (US 4,194,536) (cited by the applicant), in view of Haug et al (US 5,813,106) (the U.S. counterpart of NO 174940, cited by the applicant).

Stine shows a production/injection line assembly comprising a production/injection tube 1; heating means 2, 9 for active heating of the tube; and continuous thermal insulation disposed along the production/injection line 3, 14, 19 over at least 100 m to control the heat transfer from the heating means in towards the production/injection tube (see Figures 1-13 and col. 3, line 45 – col. 8, line 13). Therefore, Stine shows every feature and structure except for the claimed arrangement of the insulation. Haug discloses a cable, where a core tube (5), for transport of chemicals for injection in a well, is surrounded by prefabricated, long insulated spacers and control cables for the transfer of hydraulic fluid, electrical and optical signals, electric power, etc. The spacers comprise inner channel members (6) having longitudinal channels (21), Which inner channel members are laid around the core tube in a continuous production line with the channels facing outwardly. The spacers also comprise outer channel members (9) having longitudinal channels (22), which outer channel members are laid flush with the channels of the inner channel members in a continuous line. The control cables are laid in the longitudinal channels of the inner channel members and are enclosed by the outer channel members, wherein the channel members accommodate the control cables (see Figures 6-11 and col. 3, line 66 – col. 4, line 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stine to fabricate the insulation in the form of channel members so that the insulation can be preformed with any desired length and the heating means are laid in the longitudinal channels of the inner channel members and enclosed by the outer channel members to more

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securely accommodate the heating means, in view of the teaching of Haug. In regard to claims 2-4 and 20, the exact heating elements, such as electrical induction or liquid heat pipes would have been a mere engineering design variation of the ones shown in Stine as these heating elements are all well known.

7. Claims 12, 14 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stine et al (US 4,194,536), in view of Haug et al (US 5,813,106), as applied to claims 1-4, 9, 10, 20, 25 and 26 above, and further in view of Bridges (US 5,751,895) or Butts (US 4,568,925).

As set forth above, Stine combined with Haug shows every feature and structure as claimed except for the explicit showing of the use of a sensor although Stine teaches that the use of temperature control is well known (see col. 1, lines 21-31). Bridges shows an electrical heating system for heating oil including a sensing system 133, 137-139 to control the heating (see Figures 1-7 and col. 10, line 17 – col. 13, line 51). Butts shows it is well known to use a leak detector 14, 50 in an oil storage and transport assembly to detect oil leakage for information feedback (see Figures 1 and 7 and col. 4, line 49 – col. 42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stine combined with Haug to use a sensor to monitor the temperature for better heating control, in view of the teaching of Bridges or use a leak detector to detect leakage from the oil cable, in view of the teaching of Butts. In regard to claims 14 and 24, the type of sensor would be a mere engineering variation of Bridges (see col. 14, lines 27-44 and line 66 – col. 15, line 3).

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8. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stine et al (US 4,194,536), in view of Haug et al (US 5,813,106), as applied to claims 1-4, 9, 10, 20, 25 and 26 above, and further in view of Orion Kikai KK (JP 11-90108).

As set forth above, Stine combined with Haug shows every feature and structure as claimed except that it does not explicitly show the use of waste or cooling water from a process as the heating pipe liquid. Orion Kikai KK shows that it is known to utilize waste water from a process into a heat transfer pipe to apply heat to a liquid such as oil to enable rapid increase of its temperature (see Figure 1 and the English abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stine combined with Haug to recycle the waste water as the liquid in the heat pipe for heat treatment of the hydrocarbons in the tube so that the waste heat is utilized for better heat exchanging efficiency, in view of the teaching of Orion Kikai KK.

9. Claims 5-8 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The prior art made of record below is considered pertinent to applicant's disclosure:

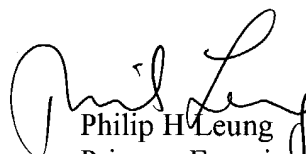
Haus, Jr. (US 3,765,240) is further cited to show a leak detector in cables.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P. Leung/pl
7-29-2004